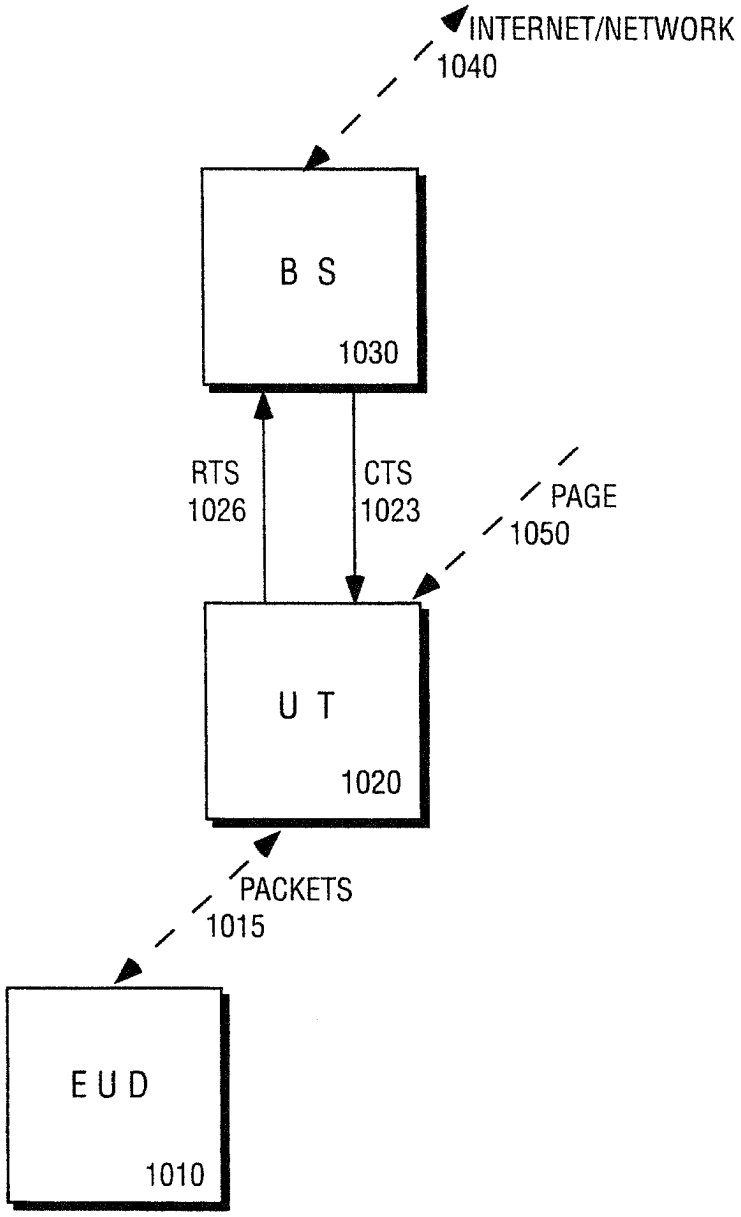
INTERNET/NETWORK
1040
B S
1030
RTS
1026
CTS
1023
PAGE
1050
U T
1020
PACKETS
1015
E U D
1010

FIG. 1A

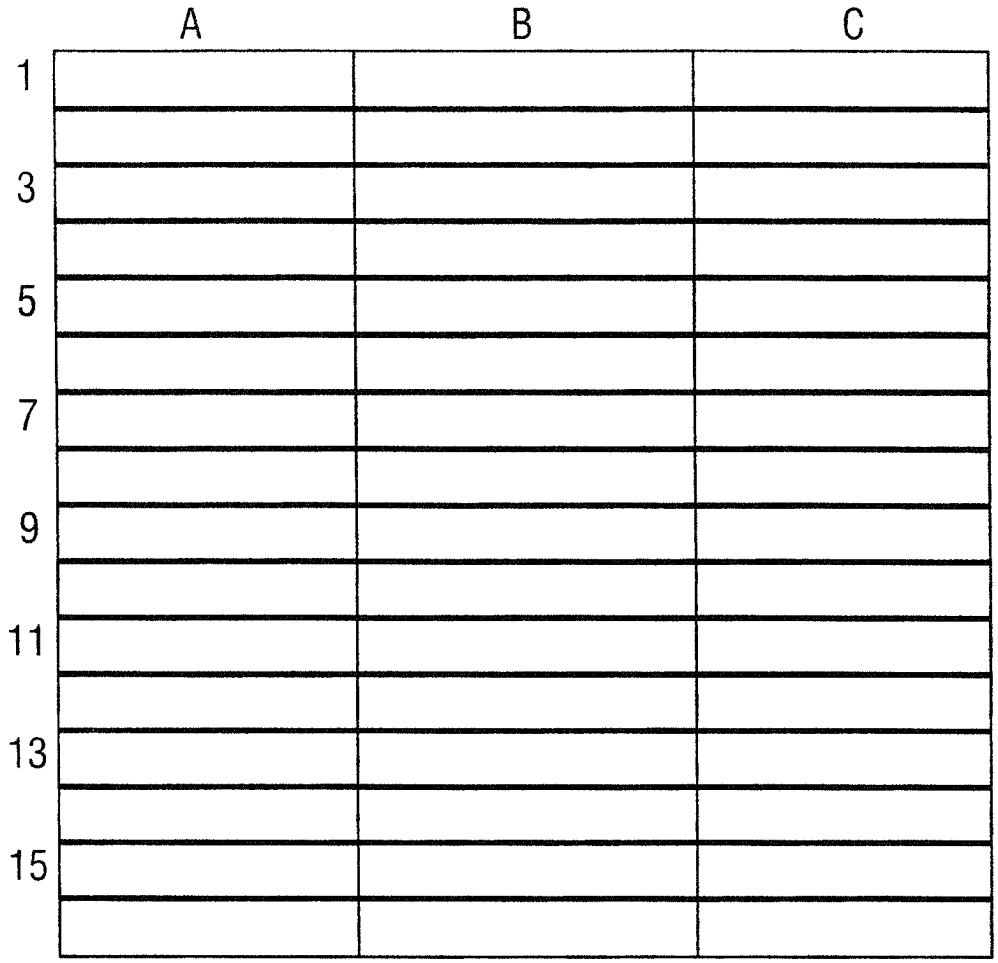

FIG. 1B

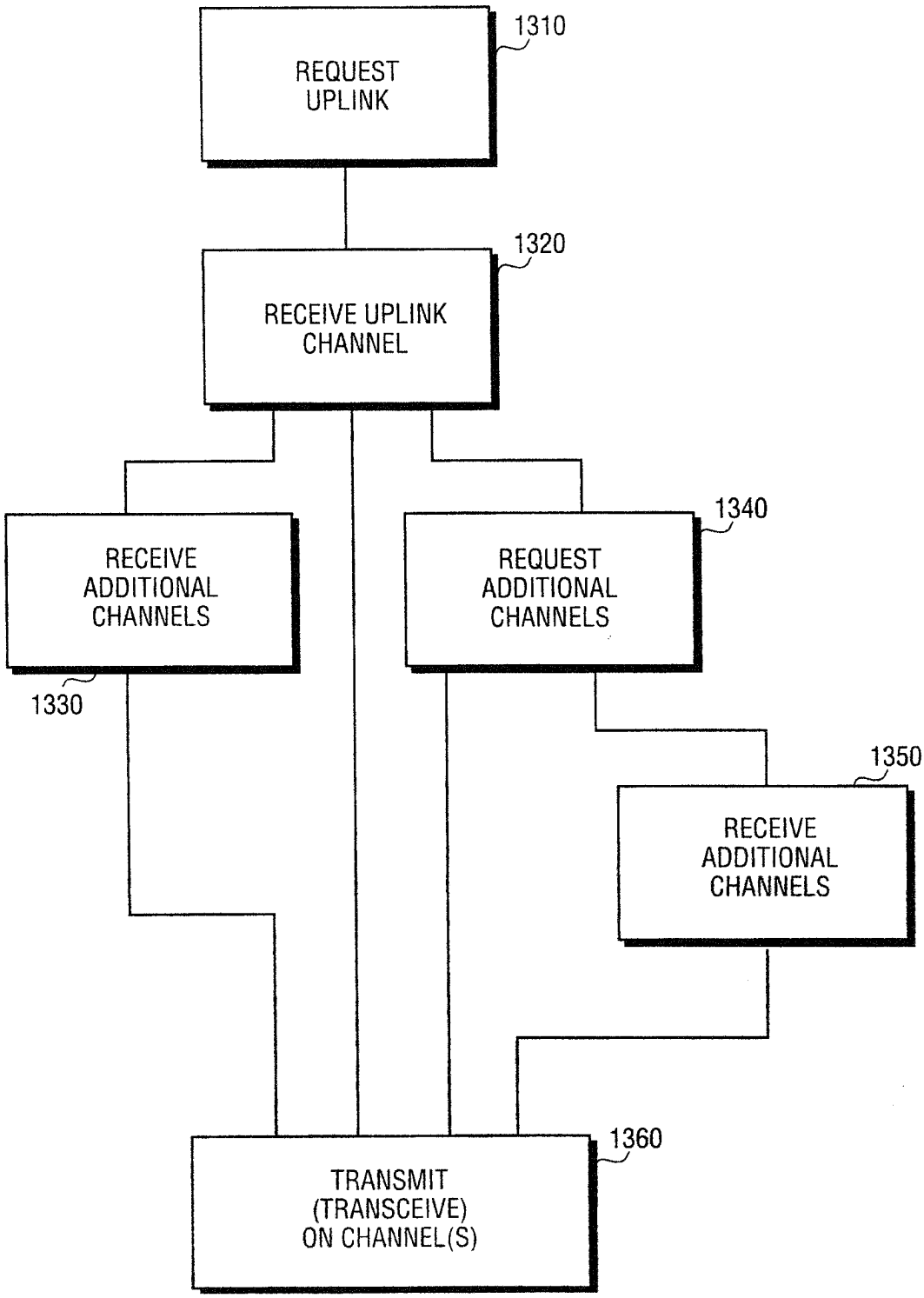
REQUEST UPLINK
1310
RECEIVE UPLINK CHANNEL
1320
RECEIVE ADDITIONAL CHANNELS
1330
REQUEST ADDITIONAL CHANNELS
1340
RECEIVE ADDITIONAL CHANNELS
1350
TRANSMIT (TRANSCEIVE) ON CHANNEL(S)
1360

FIG. 2

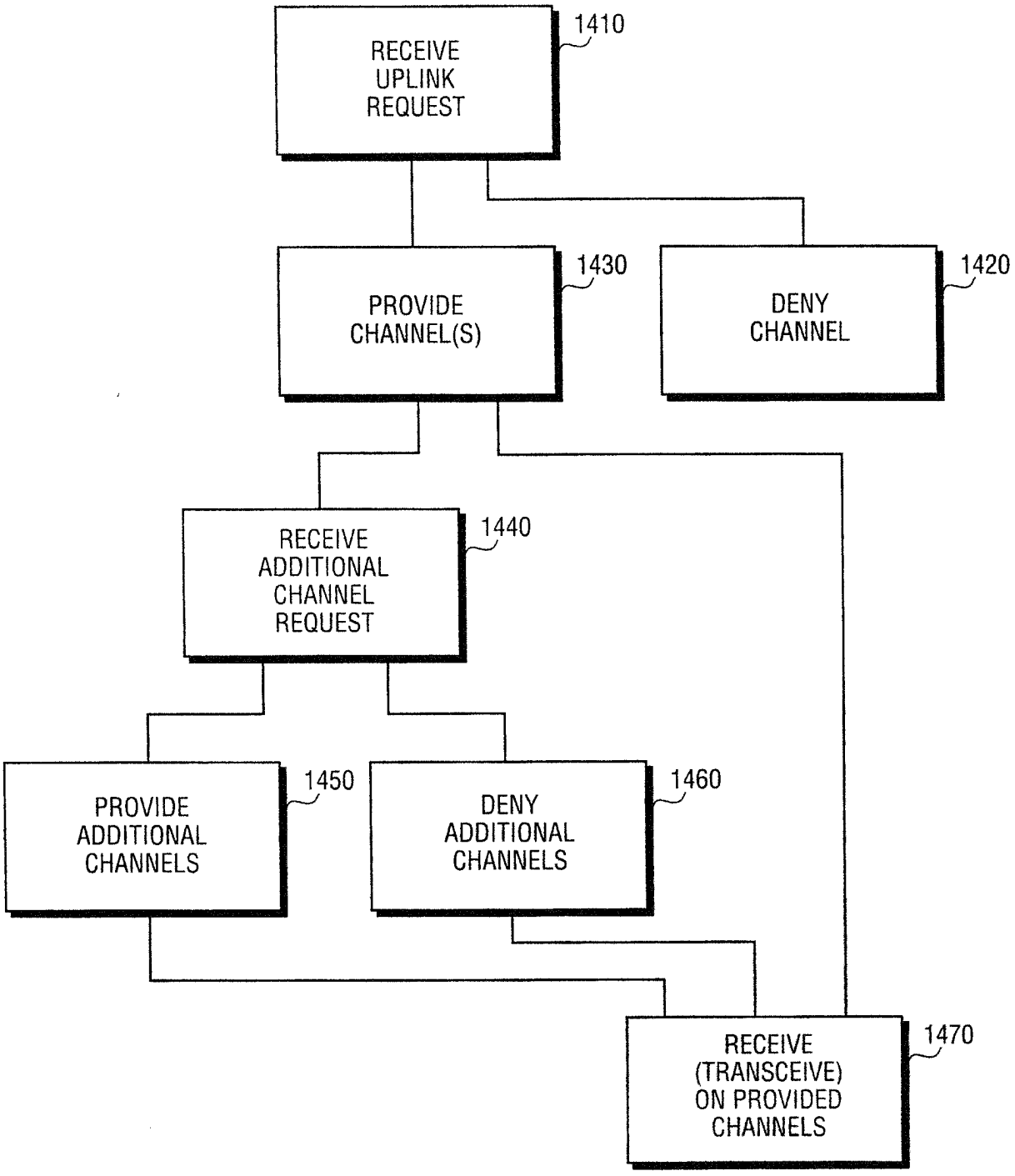
RECEIVE UPLINK REQUEST
1410
PROVIDE CHANNEL(S)
1430
DENY CHANNEL
1420
RECEIVE ADDITIONAL CHANNEL REQUEST
1440
PROVIDE ADDITIONAL CHANNELS
1450
DENY ADDITIONAL CHANNELS
1460
RECEIVE (TRANSCEIVE) ON PROVIDED CHANNELS
1470

FIG. 3

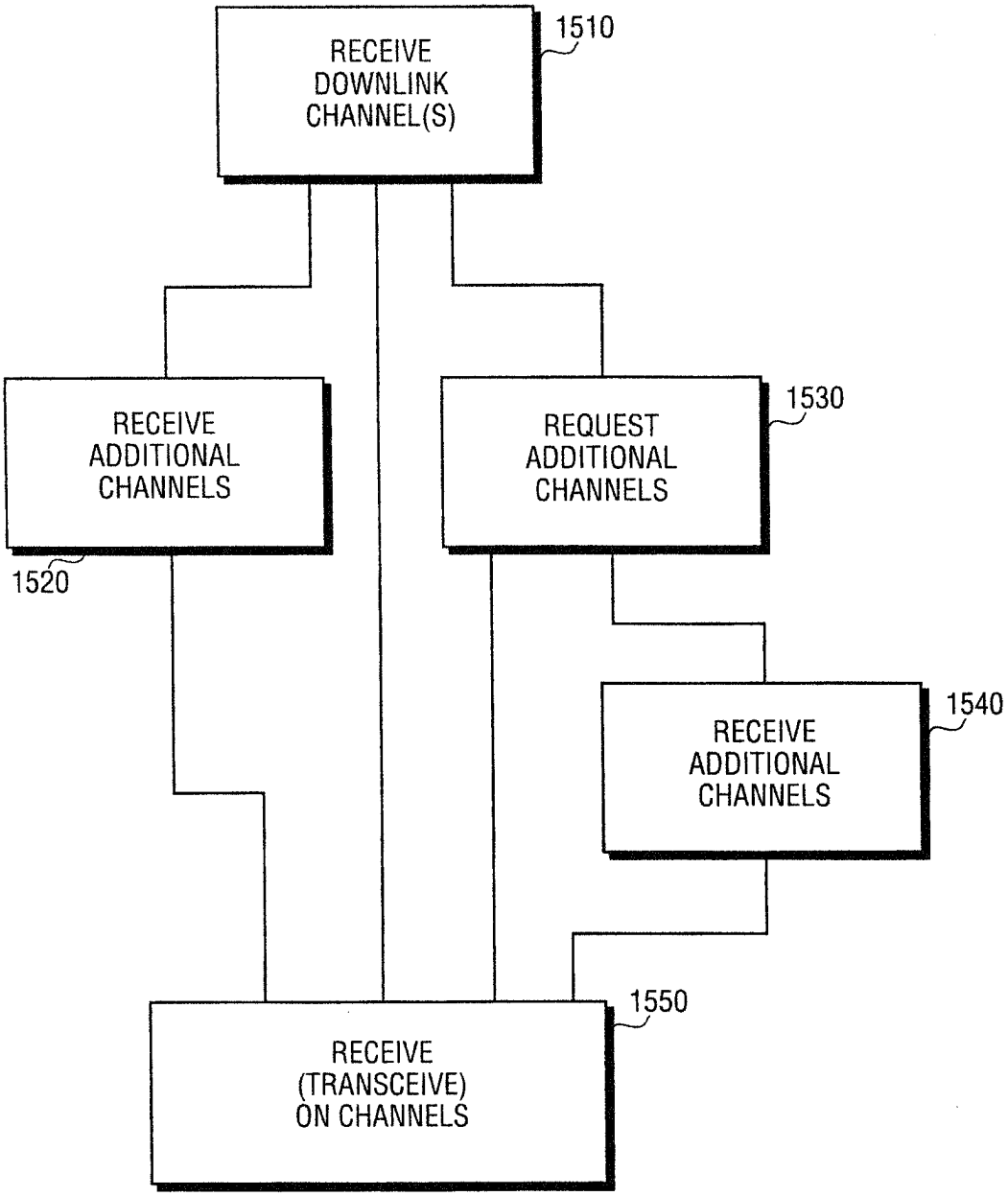
RECEIVE DOWNLINK CHANNEL(S)
1510
RECEIVE ADDITIONAL CHANNELS
1520
REQUEST ADDITIONAL CHANNELS
1530
RECEIVE ADDITIONAL CHANNELS
1540
RECEIVE (TRANSCEIVE) ON CHANNELS
1550

FIG. 4

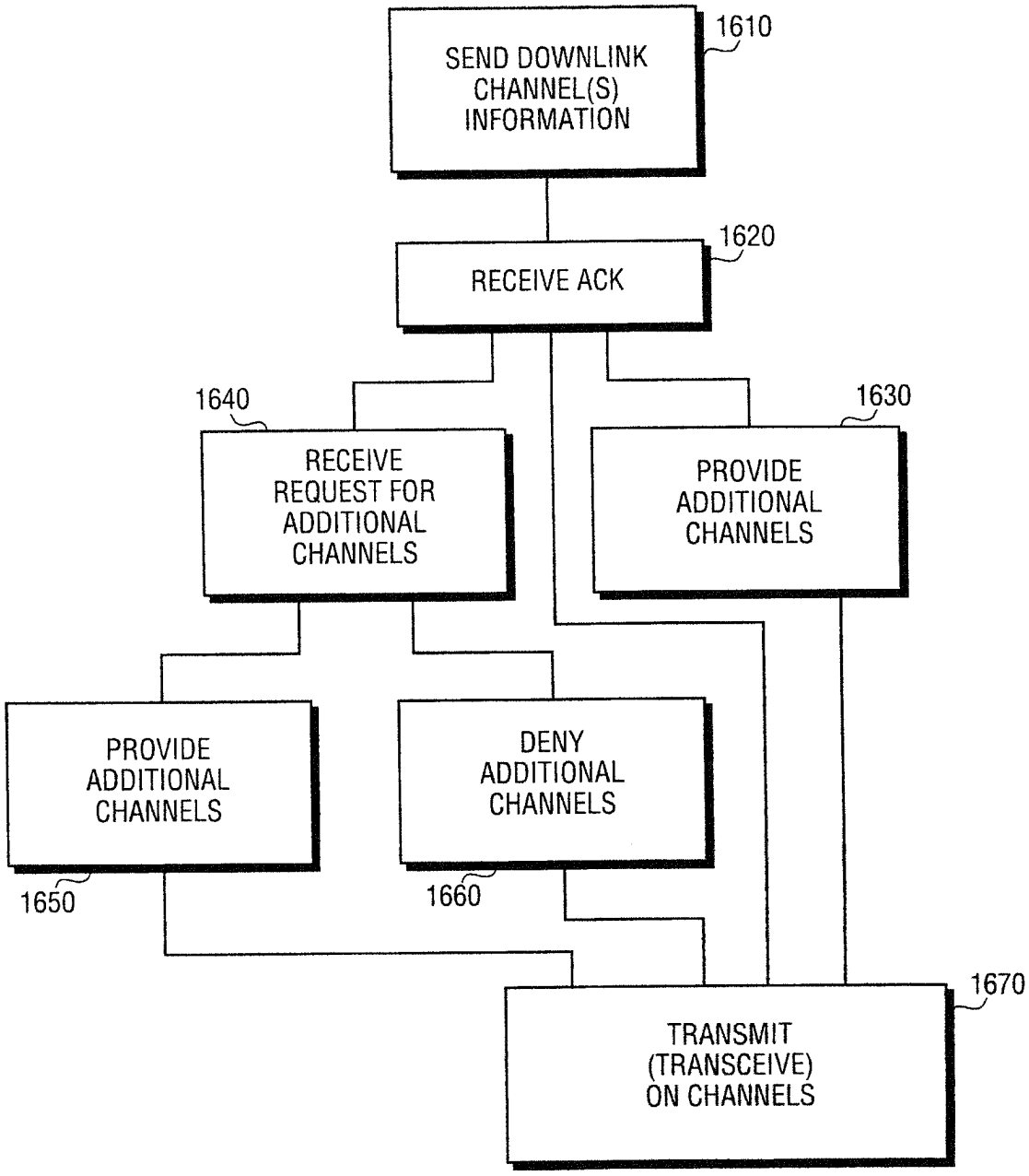
SEND DOWNLINK CHANNEL(S) INFORMATION
1610
RECEIVE ACK
1620
1640
RECEIVE REQUEST FOR ADDITIONAL CHANNELS
1630
PROVIDE ADDITIONAL CHANNELS
PROVIDE ADDITIONAL CHANNELS
1650
DENY ADDITIONAL CHANNELS
1660
1670
TRANSMIT (TRANSCEIVE) ON CHANNELS

FIG. 5

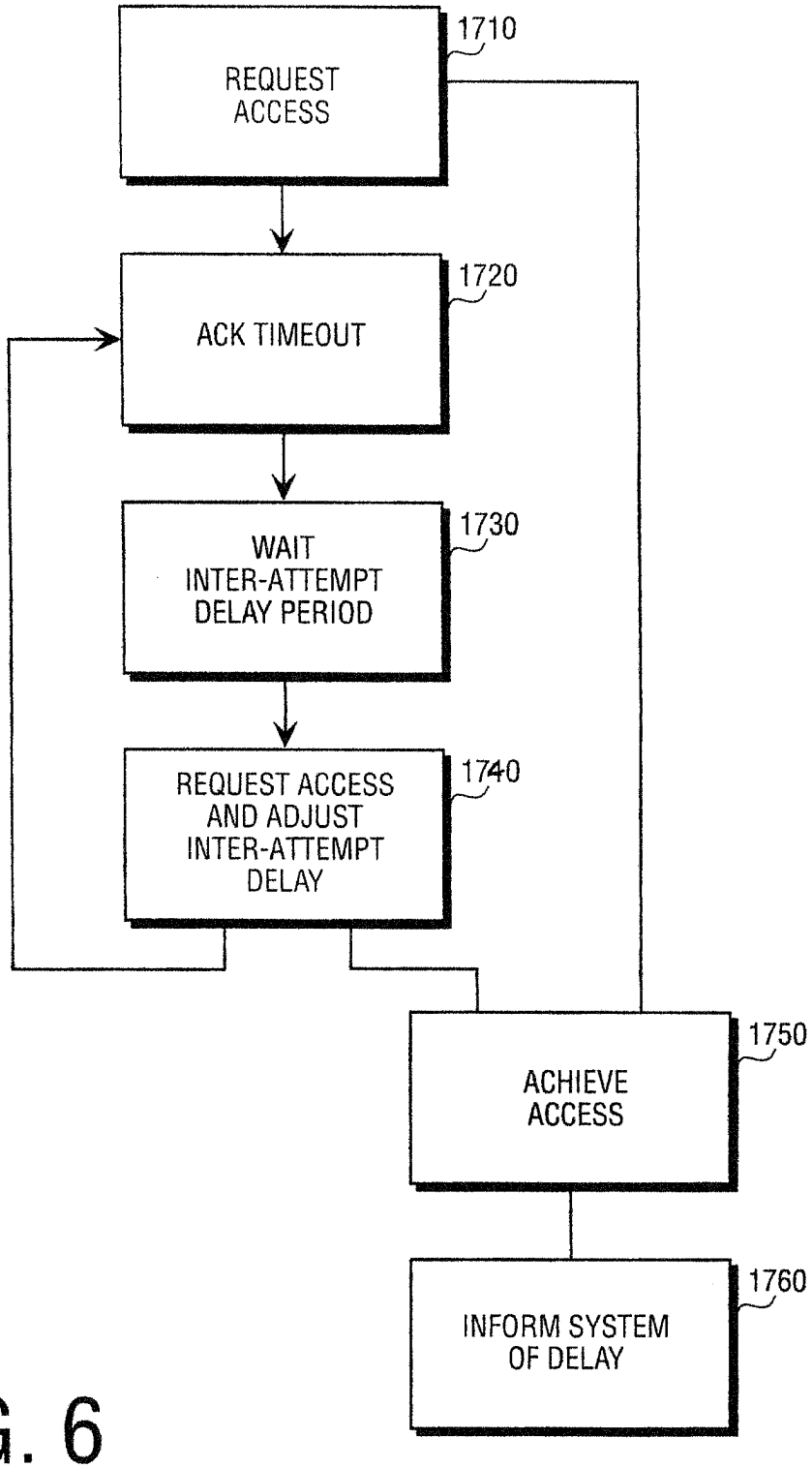
REQUEST ACCESS
1710
ACK TIMEOUT
1720
WAIT INTER-ATTEMPT DELAY PERIOD
1730
REQUEST ACCESS AND ADJUST INTER-ATTEMPT DELAY
1740
ACHIEVE ACCESS
1750
INFORM SYSTEM OF DELAY
1760

FIG. 6

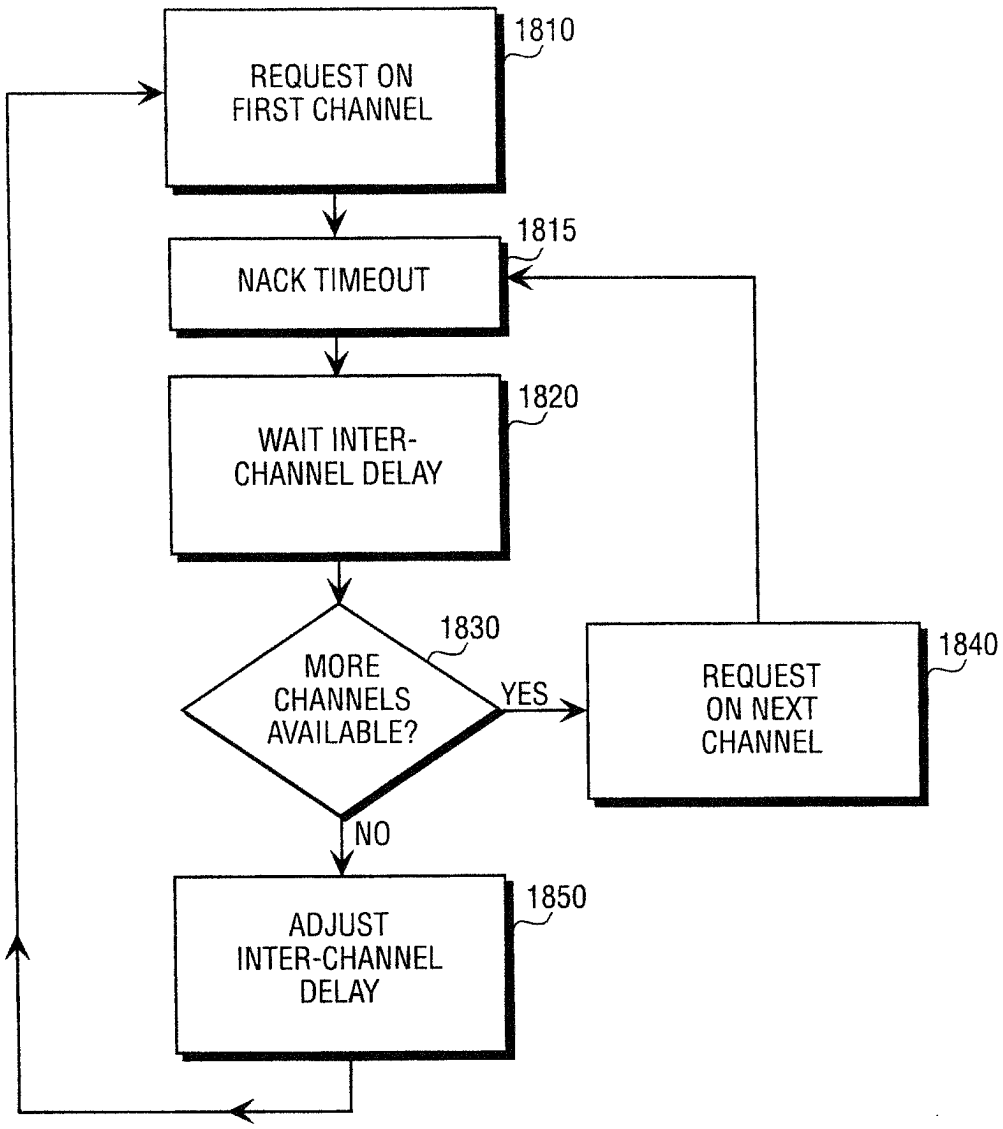
REQUEST ON FIRST CHANNEL
1810
NACK TIMEOUT
1815
WAIT INTER-CHANNEL DELAY
1820
MORE CHANNELS AVAILABLE?
1830
YES
REQUEST ON NEXT CHANNEL
1840
NO
ADJUST INTER-CHANNEL DELAY
1850

FIG. 7

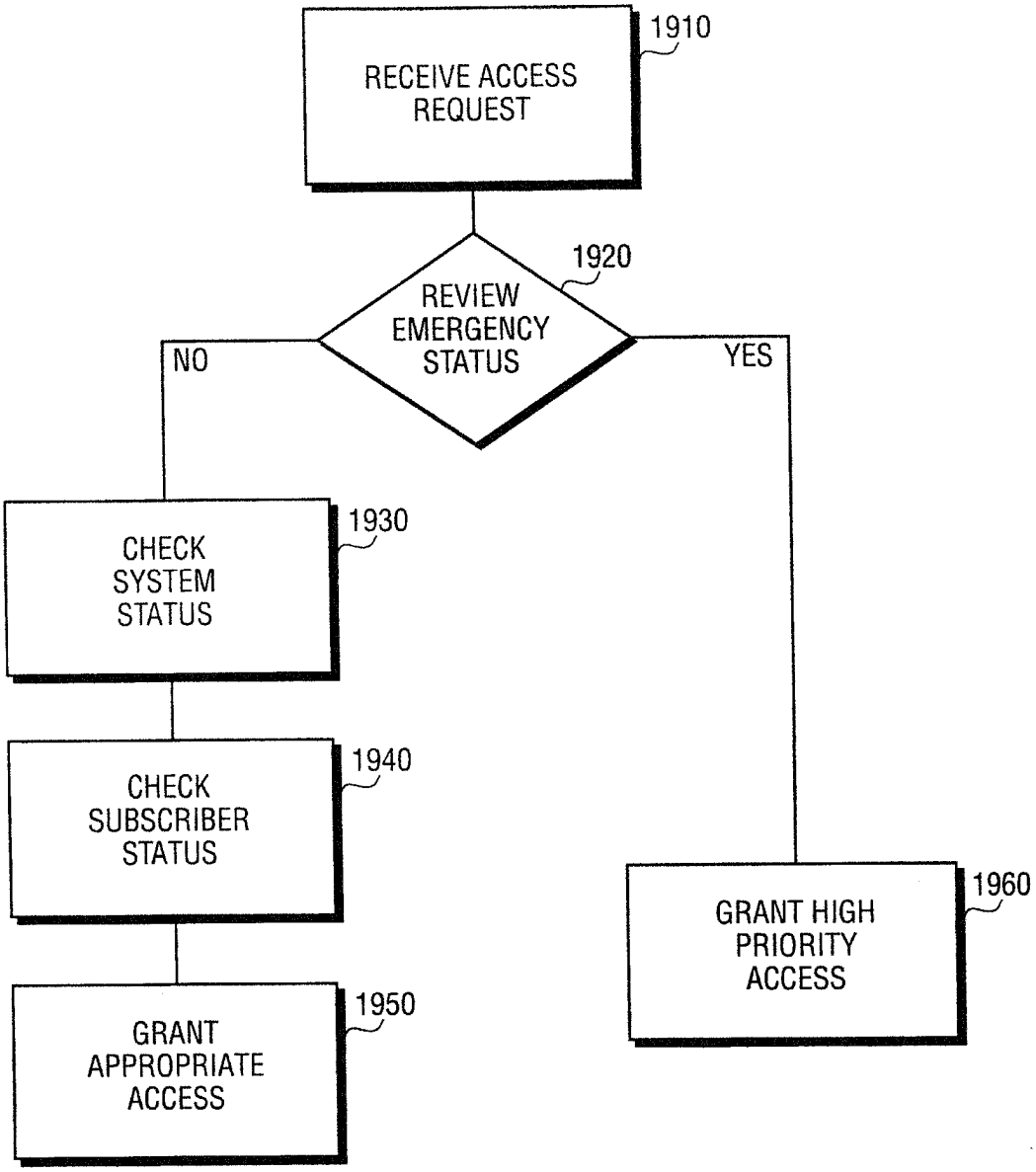
RECEIVE ACCESS REQUEST
1910
REVIEW EMERGENCY STATUS
1920
NO
YES
CHECK SYSTEM STATUS
1930
CHECK SUBSCRIBER STATUS
1940
GRANT APPROPRIATE ACCESS
1950
GRANT HIGH PRIORITY ACCESS
1960

FIG. 8

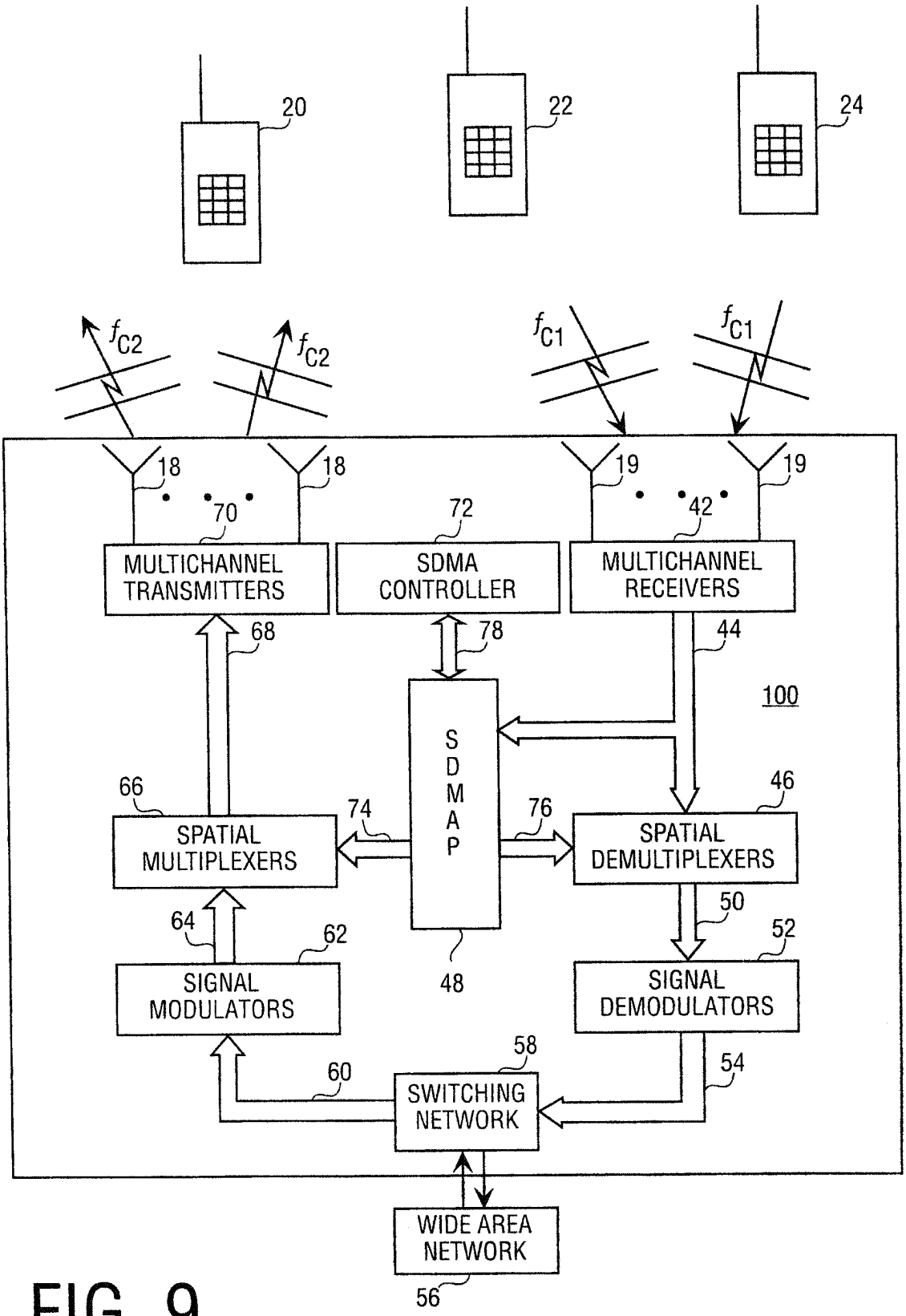
20
22
24
f_{C2}
f_{C2}
f_{C1}
f_{C1}
18
18
19
19
70
72
42
MULTICHANNEL TRANSMITTERS
SDMA CONTROLLER
MULTICHANNEL RECEIVERS
68
78
44
100
S D M A P
66
74
76
46
SPATIAL MULTIPLEXERS
SPATIAL DEMULTIPLEXERS
64
62
50
52
48
SIGNAL MODULATORS
SIGNAL DEMODULATORS
58
60
54
SWITCHING NETWORK
WIDE AREA NETWORK
56

FIG. 9

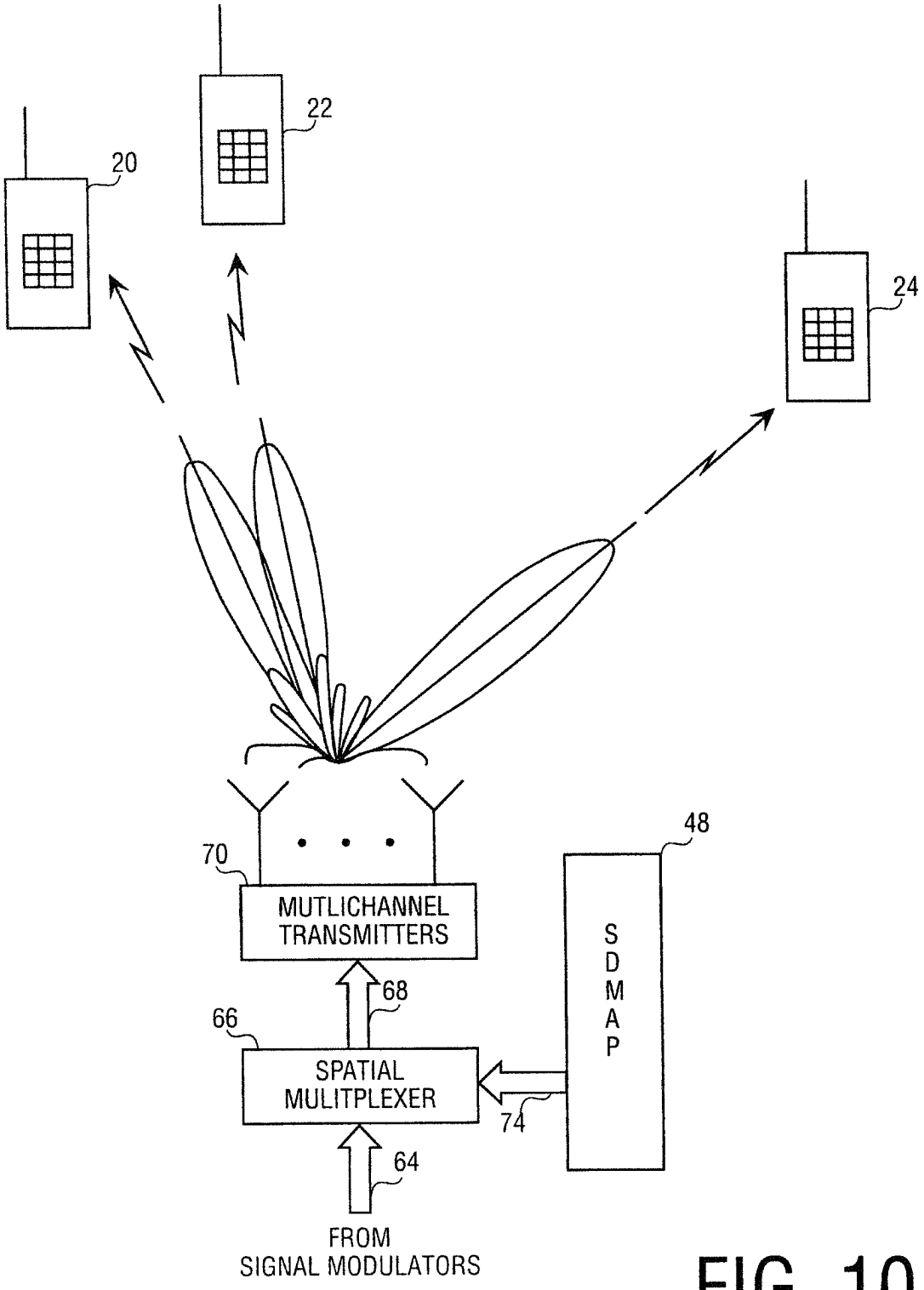
20
22
24
70
MUTLICHANNEL TRANSMITTERS
68
66
SPATIAL MULITPLEXER
74
64
FROM SIGNAL MODULATORS
48
SDMAP

FIG. 10

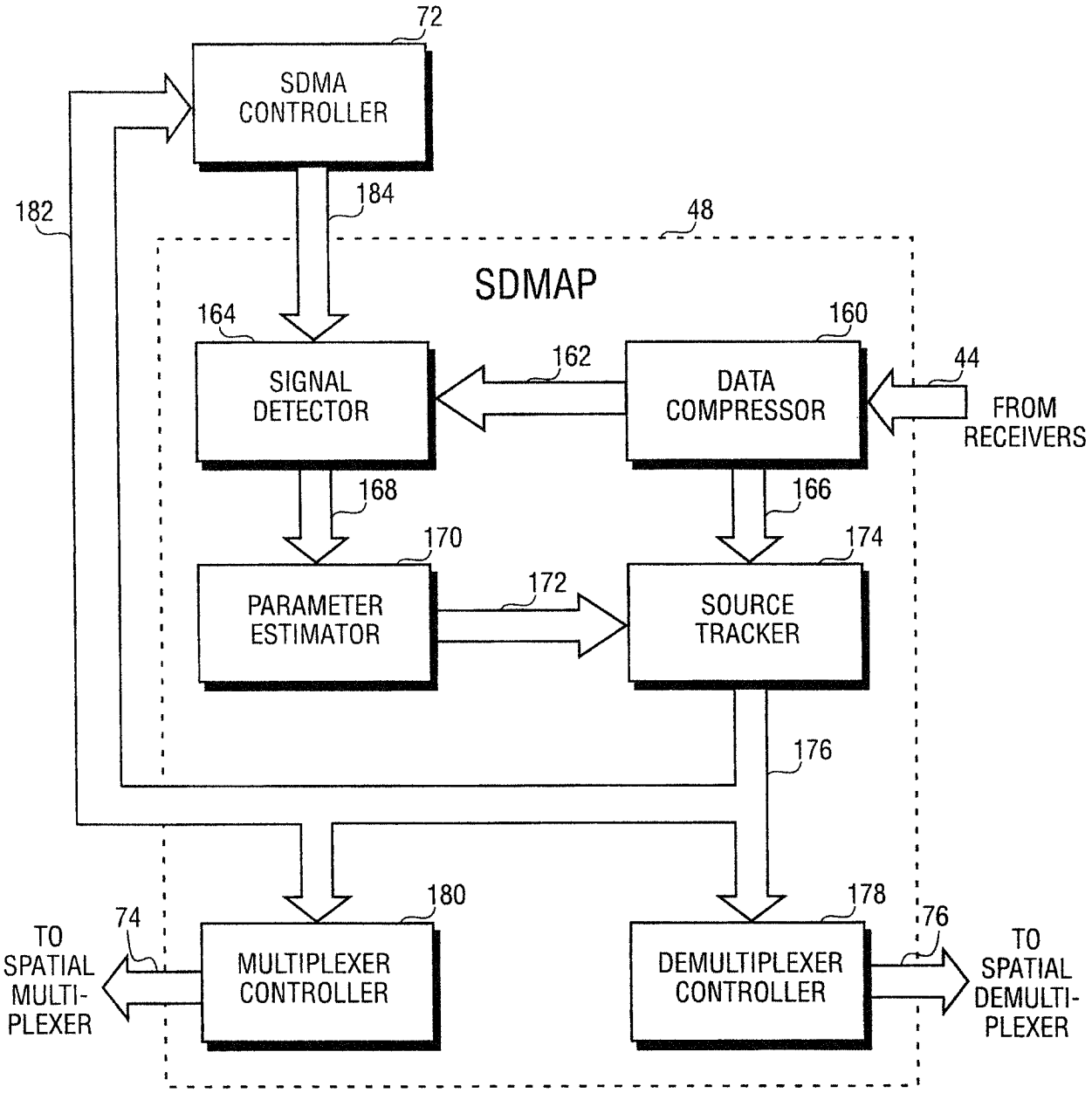
72
SDMA CONTROLLER
182
184
48
SDMAP
164
160
SIGNAL DETECTOR
162
DATA COMPRESSOR
44
FROM RECEIVERS
168
166
170
174
PARAMETER ESTIMATOR
172
SOURCE TRACKER
176
180
178
74
76
TO SPATIAL MULTI-PLEXER
MULTIPLEXER CONTROLLER
DEMULTIPLEXER CONTROLLER
TO SPATIAL DEMULTI-PLEXER

FIG. 11

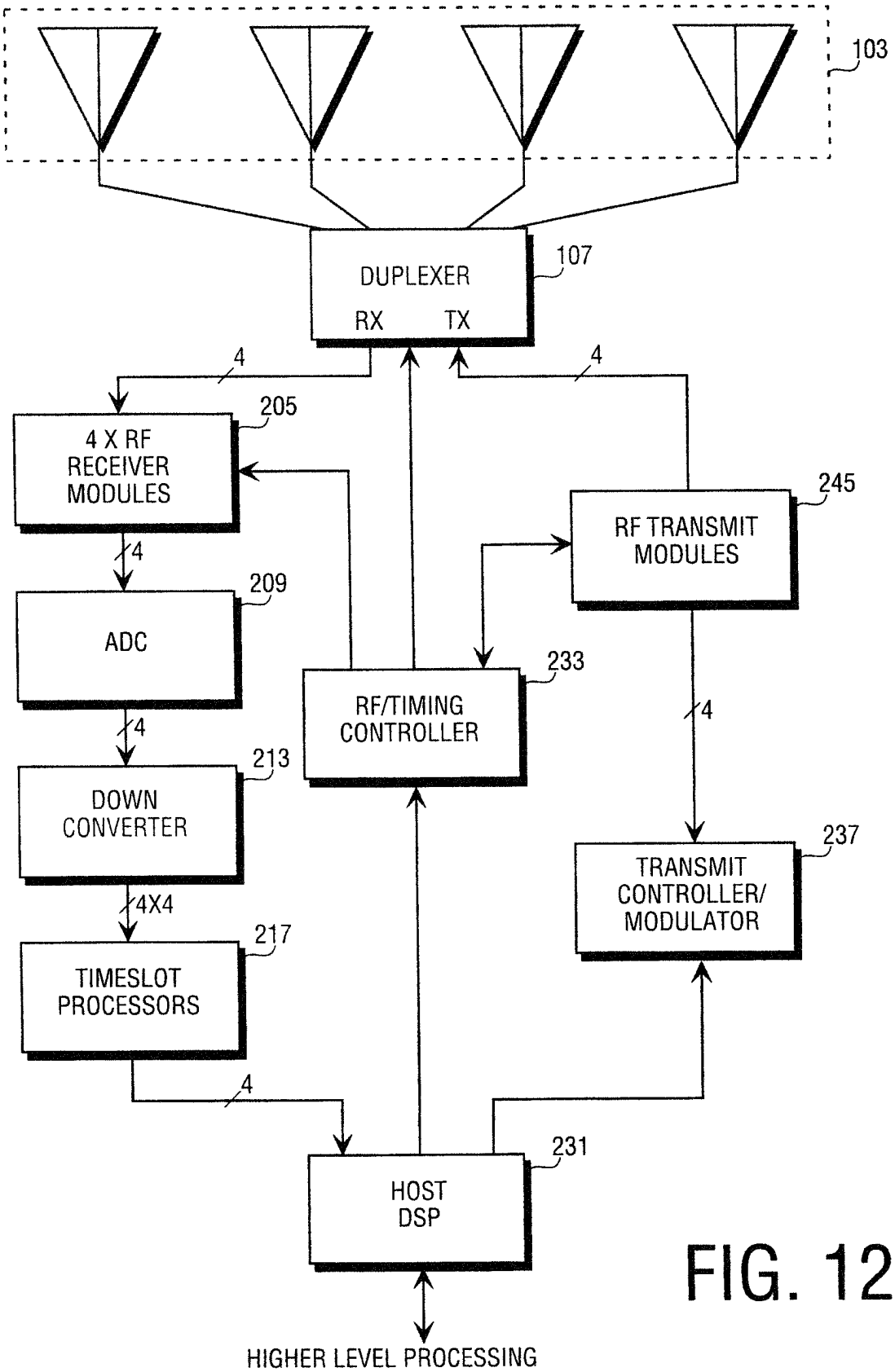
103
DUPLEXER
RX
TX
107
4
4
205
4 X RF
RECEIVER
MODULES
245
RF TRANSMIT
MODULES
4
209
ADC
233
RF/TIMING
CONTROLLER
4
213
DOWN
CONVERTER
237
TRANSMIT
CONTROLLER/
MODULATOR
4X4
217
TIMESLOT
PROCESSORS
4
231
HOST
DSP
HIGHER LEVEL PROCESSING

FIG. 12

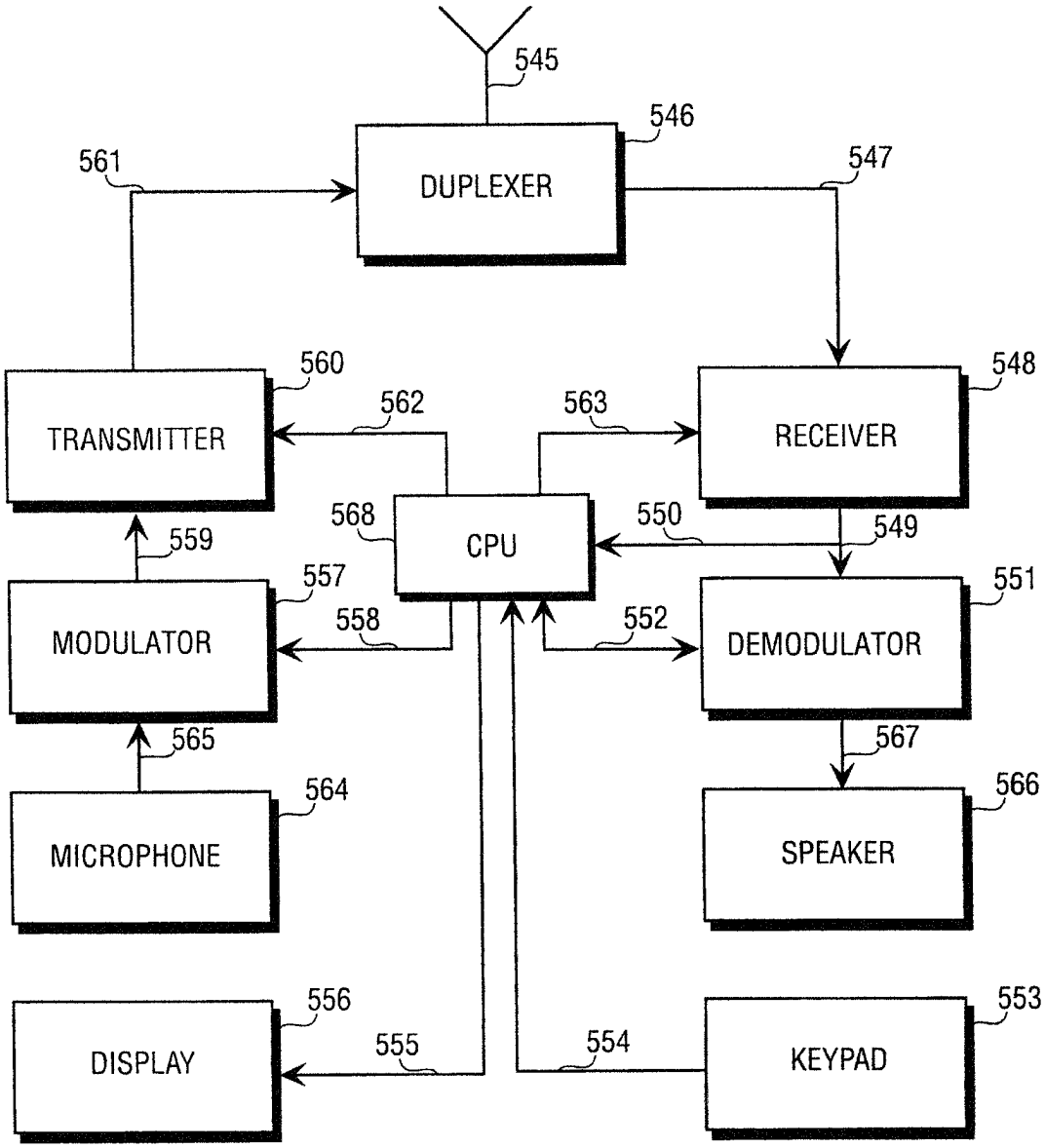
545
546
561
DUPLEXER
547
560
548
562
563
TRANSMITTER
RECEIVER
568
CPU
550
549
559
557
551
558
552
MODULATOR
DEMODULATOR
565
567
564
566
MICROPHONE
SPEAKER
556
553
555
554
DISPLAY
KEYPAD

FIG. 13

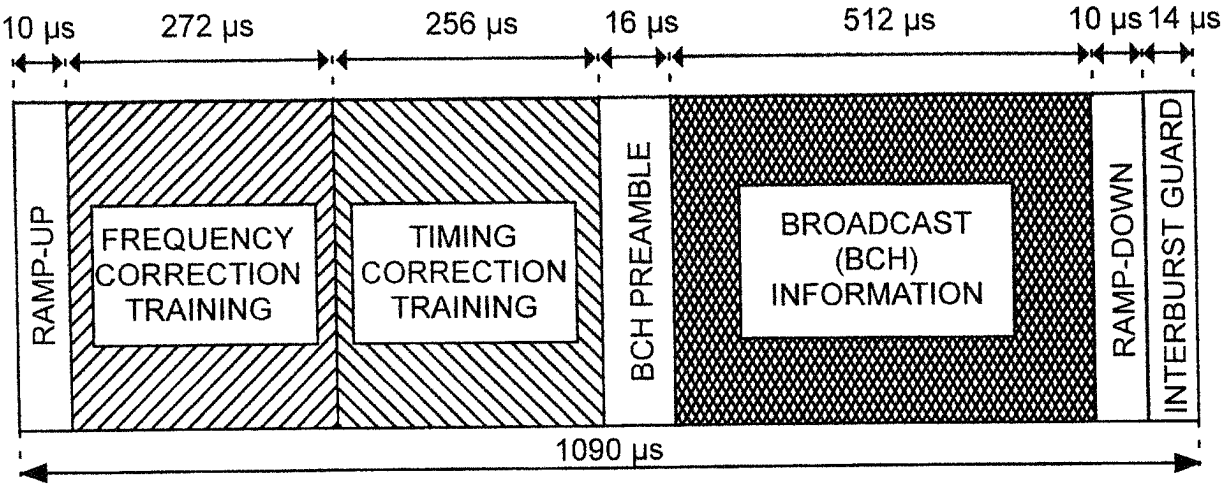

FIG. 14

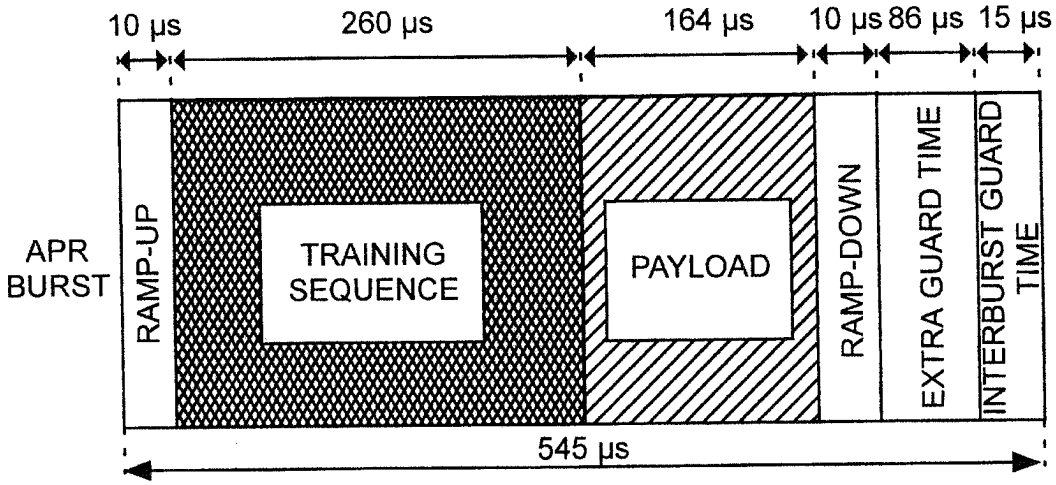

FIG. 15

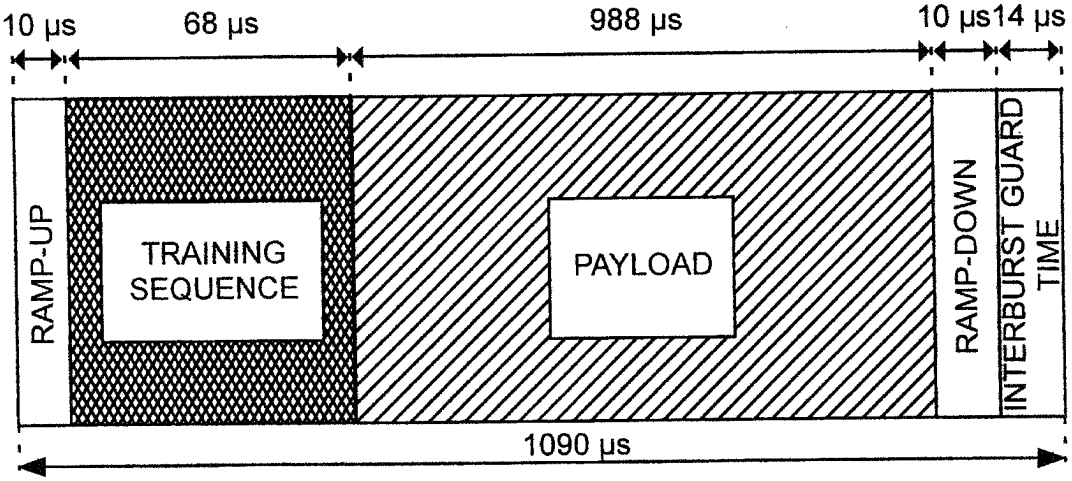

FIG. 16

	BASE STATION		REMOTE TERMINAL
300	ACQUIRE GPS TIMING		
302	DETERMINE BCH SLOT TIME		
304		BCH ⇒	
306			SCAN BCH CHANNELS
308			ACQUIRE FRAME TIMING
310			ACQUIRE SYNCHRONIZATION
312			BUILD MAP OF BASE STATIONS BCHS AND BSCCS
314			SELECT BASE STATION
316			BUILD CR USING UTID AND TRANSMIT POWER
318			SCAMBLE CR USING BSCC
320		⇐ CONFIGURATION REQUEST	
322	UNSCAMBLE CR USING BSCC		
324	DETERMINE SPATIAL SIGNATURE OF REMOTE CR		
326		CONFIGURATION ⇒ MESSAGE	
328			ADJUST TIMING AND POWER
330		⇐ TRAFFIC REQUEST	
332		TRAFFIC ASSIGNMENT ⇒	
334		⇐ TRAFFIC ⇒	
336		SEND PACKET ⇒	
338		⇐ SEND DA AND PACKET	
340		SEND DA AND PACKET ⇒	
342		⇐ SEND DA AND PACKET	

FIG. 17